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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,380	12/12/2003	Roland L. Dilley	H0004919	5870

7590 07/05/2005

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EXAMINER

DUONG, THO V

ART UNIT PAPER NUMBER

3743

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

①

Office Action Summary	Application No. 10/737,380	Applicant(s) DILLEY ET AL.	
	Examiner Tho v Duong	Art Unit 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,7,8 and 11-15 is/are rejected.
- 7) ☒ Claim(s) 5,6,9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/22/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the axially projecting section" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 is further rejected as can be best understood by the examiner in which claim 13 depends on claim 12 instead of claim 11 since claim 12 provides a proper antecedent basis of "the axially projecting section".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2,4,7 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by F. M. Young (US 3,111,167). Young anticipates (figure 1 and column 3, lines 67-73) the claimed invention wherein an axial protrusion (16) of header plate (13) is in a nested attachment with a recess (12) of the housing by a brazing material.

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Claims 1-4,7-8 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Stafford et al. (US 4,421,160). Stafford anticipates (figures 2, 7 and column 5, lines 38-63) the claimed invention wherein the header plate (400) outside diameter includes an axially projection formed by parts (114,120,116,122,118,124) that fits within a recessed section of a housing (80,84,86); the header plate (400) further comprises a lip (126) that projects radially outwardly from the axially projecting section and positioned adjacent the shell end; and brazing material such as polymeric material which is melt and harden to join the parts together, interposed between the recessed section and the axially projecting section.

Allowable Subject Matter

Claims 5-6 and 9-10 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 14-15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McKey (US 6,206,086) discloses a multi-pass tube side heat exchanger.

Williamson et al. (US 3,768,550) discloses a heat exchanger with recessed portion on shell.

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D. W. Christensen (US 2,783,980) discloses a heat exchanger that has tube plate inserted in a recessed portion of a housing.

Strauh (US 3,945,431) discloses an arrangement for mounting tubes in a tank wall.

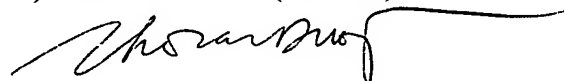
Romero (US 5,823,251) discloses a heat exchanger that has recessed portion in the shell.

J. Price (US 1,773,199) discloses a heat exchanger having grooves on header plate and shell.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet can be reached on 571-272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tho v Duong
Primary Examiner
Art Unit 3743



TD
May 11, 2005